

[54] **LIFT-OFF AND SUBSEQUENT BONDING OF EPITAXIAL FILMS**

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Related U.S. Application Data

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[57] **ABSTRACT**

A method for removing an epitaxial film from a single crystal substrate upon which it is grown and adhering the films to second substrate and the resultant structure. The removing method comprises (a) providing a thin release layer (≤ 100 nm) between the film to be grown and the single crystal substrate; (b) growing the epitaxial film; (c) applying a polymeric support layer which is under tension over the film; and (d) selectively etching the release layer, the tension in the support layer causing the edges of the film to curve upwardly as the release layer is etched away. The adhering method uses either adhesives or relies solely on Van der Waals bonding between the epitaxial film and the second substrate.

19 Claims, 8 Drawing Sheets

